Deposing the Crown Victoria

Rethinking Police Fleets

By

Lieutenant Quinn Fenwick

Ventura Police Department

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

Deposing The Crown Victoria: Rethinking Police Fleets

Imagine you are the Assistant Chief of Patrol Operations of a midsize police agency in Southern California. As a member of the management team you are aware that the city has no extra revenue to allow you to expand police services. Personnel costs, the bulk of your budget, are not decreasing. As a responsible manager, you are looking for ways to reduce costs and increase service. One day, your department's budget manager tells you that your fuel budget is about to go bust and there's still a quarter of the year left to go. You ask incredulously, "How could this happen?" He tells you, "Last year, we bought gasoline at $2.50 a gallon; this year we had to pay close to $4.00 a gallon. We were only able to purchase 60% percent of the amount of fuel we bought last year…you didn't increase my budget for fuel, you know!!"

As this information slowly sinks in, you are faced with the unpleasant problem of figuring out how your police cruisers will be able to drive the same number of miles and provide the same level of service with the new financial realities. You wish you had planned for this unfortunate event several years ago, but now you're up against a wall and you have no choice but to address the fuel situation now and plan for the future. But what to do…?

This scenario has most likely come to a police department near you. Last year's wildly fluctuating gas prices trimmed many a fuel budget. Although prices have since fallen they are back on an upward trend with the average cost of fuel today of almost $3.00 a gallon[i].

The cost of government has always been a topic of concern to most Americans. Given the financial crisis we are in today the price of government and taxes collected to pay for government is at the top of most citizens' radars. Within the public's general view that government is wasteful and expensive, traditionally they have been willing to fund public safety costs without too much complaining. That trend may be changing. In the last few years there is a growing public awareness of the high cost of pubic safety, and in particular, law enforcement. More than ever it seems Police leaders must make the case they are providing top notch service in the most efficient and cost effective way.

According to Ford spokesman Dan Jarvis the Ford Crown Victoria is "the police car of choice with 80% of the market.[ii]" Fords get between 8-12 miles per gallon fuel efficiency (or should one say, inefficiency). With this being the case, responsible police agencies should be transitioning less fuel-efficient fleets to those that include vehicles with greater fuel efficiency. By doing so, they will realize significant savings; they will also insulate themselves from the nasty effects of future price increases. Interestingly enough there are a number of agencies that have started this process; a review of their experiences may light the way for those agencies considering making these changes. Imagine being the staff member that creates a project that helps save half of a $400,000 fuel budget…

What's the Case for Rising Fuel Prices?

So is the problem real? Will fuel prices continue to rise? As seen in the graph below, the average price of gasoline in the United States for the years 1992 to 2009 reflects a steady uphill trend in the retail price of gasoline nationally.

The price of a gallon of gas has gone from approximately $1.50 to 2.75 from 2000 to 2009. The price has fluctuated wildly, reaching about 4 dollars a gallon in early 2008, and then falling back to under two dollars by mid-2008 in response to the world economic crisis. In 2009, gasoline prices have steadily increased to approximately $3.00 per gallon by July. Many experts agree that the world is observing an increased demand for fuel with a declining supply. The US Department of Energy's own *Annual Energy Outlook-2009* states " *Despite the recent economic downturn, growing demand for energy—particularly in China, India, and other developing countries—and efforts by many countries to limit access to oil resources in their territories that are relatively easy to develop are expected to lead to rising real oil prices over the long term*.[iii]"

Not convinced yet? In a May 8, 2009 appearance on CNBC's the Kudlow Report, Kevin Kerr, CEO of Global Commodities Alert argued that a return to $300 dollar a barrel oil was a possibility as the economy improved and inflation took off. ""Look, $300 isn't going to happen overnight," Kerr said. "But the same situation that we had, when we saw oil prices get to $147 - the same things still exist. We do not have more drilling. We do not have more infrastructure…[iv]"

Fleet managers and Police Administrators can't be blind to a predictable threat to their budgets. Commenting on the City of Ventura CA plan to move toward a more efficient vehicle fleet, The City's Fleet Manager, Mary Joyce Ivers, said, "As a fleet manager I'd rather plan for the worst rather than hope for the best[v]."

What are the options to deal with the Problem?

Most police agencies in the United States use a patrol base model of patrol for delivering service to their citizens. If so what are the options for dealing with rising fuel prices?

One option is to look at available technological advances that limit the need for vehicle-based patrol. Video surveillance systems, Internet based self-reporting systems and a host of new technologies may limit the need for patrol response and vehicle based patrol. Many of these technologies however are in their infancy and their impact on police response is yet to be determined. Additionally, the public in large part still expects to make a phone call and have an officer respond to their doorstep. This area is promising but as it stands now adopting this solution will take time to fully develop; right now it still will not address the citizens need to meet and greet a cop at their front door.

Another approach looks at appropriate urban planning to lessen the need for vehicle-based patrol. However most communities still are planned in such a way that vehicle-based patrol will be a necessity for a long time. Newer communities may benefit from urban planning techniques that limit the time police need to spend in their cars but the bulk of America's cities and suburbs still require vehicle based patrol. This is a solution that needs to be pursued by police managers and urban planners alike but the

benefits of the changes in this area are many years away and won't address the needs of existing communities.

For Assistant Chief Mike Cochran of Ft. Lauderhill Police Department, Fla it seems a logical way for agencies to control fuel prices is simply to improve the nature and efficiency of police vehicles. "We started trying to segue away from the gas hogs. When we can and where we can we are trying to put officers in more fuel efficient vehicles.[vi]" There are several positives to changing out police vehicles. The decision to change out non-patrol vehicles such as detective and civilian employee vehicles is fairly easy. With the exception of certain specialty units, such as undercover units, most of these vehicles are simply for transportation of persons and can be small and highly fuel-efficient without damaging the delivery of service for which they are designed. In many agencies, more than half the vehicle fleet is non-patrol vehicles; changing them out would make sense.

Perhaps the most compelling reason to focus on these vehicles is that in the long and short-term, agencies will save money. New York Mayor Michael Bloomberg justified the NYPD's purchase of Hybrid Nissan Altimas this way, "Through savings in fuel, these Altimas can quickly cover their additional cost, from then they will save taxpayers money – another example of how going green is good for our environment and our pocketbooks.[vii]"

Problems with Change

There are problems with changing police patrol vehicles. One hurdle is gaining police officer acceptance. Scot Case, an environmental consultant who works on Fleet issues, said that many fleet managers have told him "police departments will never be for

these kinds of hybrid cars. There is a mystique that they need big guns and big cars.[viii]" Lt. Henert of the Northern Illinois Department of Public Safety said his officers were skeptical of the departmental move to Prius patrol vehicles. "They called them the 'Clown car' initially. They were concerned about the look.[ix]"

The ergonomics of vehicles are important. Patrol officers often have to cram large amounts of personal as well as computer and radio equipment into the vehicle to perform their jobs. Many are concerned they will be required to spend time in cramped spaces and spend patrol shifts uncomfortably lodged into a smaller car. Sgt. Tim Turner of the Ventura Police Department summed it up saying, "I'm all for saving money on fuel but not at the cost of my back![x]"

A yet to be answered question is one of pursuit worthiness. Many agencies look to large testing facilities such as the Michigan State Police and the Los Angeles County Sheriff's Department to provide information on "pursuit rated" vehicles. One of the problems with new hybrid style vehicles is that many have either not been tested or found to be "pursuit rated." In certain jurisdictions where agencies have eliminated or severely restricted pursuits, this problem may not be a big one; for agencies that still engage in this type of driving the problem is real.

Finally there is a big issue of fleet change out cost. The problem of expensive fuel will not be solved if agencies purchase vehicles that don't pencil out in terms of dollars saved overall. It would be no help to buy more efficient cars if the cost to make such purchases outweighs the benefit of fuel savings. Agencies must resist the urge to rush out and purchase expensive vehicles that are such a price that one can never reach fuel saving costs. Lt. Dave Pabst, Fleet Manager of the Wisconsin State Patrol, notes that fuel

savings is just one consideration. “Now the price of fuel has gone up, see we are looking more closely at miles per gallon. But you must also factor what is the overall repair history...what is the cheaper cost per mile rather than (just) the cost per gallon[xi].”

Positives with Change

Having acknowledged the risks of the change, there are significant positives to deal problems regarding a transition to more fuel-efficient police vehicles. If the project is managed well, the changeover will save agencies money over time. In the City of Ventura, California the fuel budget is approximately $400,000 per year for the Police Department. If the Department were to simply double the mileage for all of its vehicles, they could realize an annual savings of approximately $200,000 a year. This equates to approximately 1 1/2 police officer positions or two civilian positions that can be put to use towards other services the public would like.

The move to more fuel-efficient vehicles also demonstrates to the public that their particular police agency is concerned with managing its resources and dollars, and is taking steps that are in the best interest of the public. Moves such as this aren't simply for PR, though. They demonstrate to the public that a government agency truly takes its job as a steward of the tax dollars seriously.

What happens if we don’t change

Gas prices can change dramatically in an extremely short period of time. They are subject to a number of factors; including market manipulation, dwindling supply, and changing political events such as war and cartel-like behavior of oil-producing nations.

Any police agency that fails to plan for change would be caught shorthanded in the face of future fuel price increases. For instance, it is possible police driving behavior could be the subject of government mandate. An example is the rules the City of Boston has implemented on taxis to require all be hybrids by 2015[xii]. Police fleets might not be insulated from similar regulations, whether they are local, state or federal. These mandates, when they have to be implemented quickly, can be a costly and ill conceived. Police managers with a plan in place will be at less risk of having to make draconian or expensive changes.

If the public perceives that police entities failed to plan for this future predictable change they will lose trust in management's abilities to lead the department. Additionally within the department the rank-and-file will wonder how their staff members failed to perceive this threat to their department. It may seem obvious, but final result of failing to plan for this eventuality is that police fuel budgets could go broke, and core services will be compromised, if we fail to plan and execute viable options on the near horizon.

Models for change

The good news is there are a number of agencies beginning to experiment with different police vehicles to address this very problem. While it's still fairly "innovative" to use hybrid vehicles in the policing context, there are a number of organizations moving hybrids into their patrol fleets. Here are four that are taking initial steps to integrate different types of vehicles in their fleets.

New York Police Department

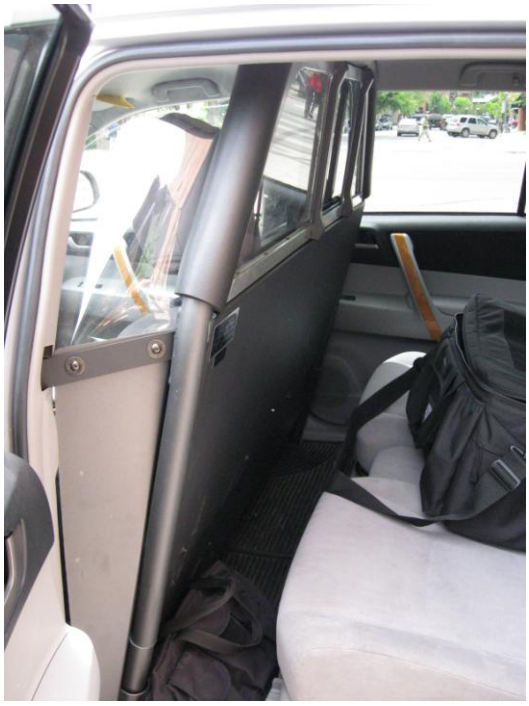
The New York Police Department has 57 hybrid Altimas assigned to patrol. Director Carl Chiaramonte, a Police Department fleet manager, said that so far vehicles appear to be working out fine. He said it's still too early to see if they can withstand the long-term rigors of patrol work, but in the short term they seem to be working well. In the patrol environment, the Altimas are getting at least twice the gas mileage of the Crown Victorias and Impalas the Department uses for most of its patrol fleet. He stated that one small complaint is that in two person patrols, the front cabin can be tight due to the presence of the mobile data computer in that area. He said they're currently experimenting with new mounting equipment to see if they can fix this problem[xiii].

The hybrid Altimas only cost about $1500 more than the traditional vehicles they have been purchasing, consequently he expects there to be an overall savings over the life of the car.

Aspen Police Department:

The Aspen, Colorado Police Department has transitioned its entire fleet to hybrid Toyota Highlander vehicles. The Police Department has doubled its fuel efficiency (the Department previously had similar sized Volvo C90 patrol vehicles) and maintained its patrol effectiveness. The department reported the vehicles costs on average approximately $5000 more than their previous patrol models, but noted they would save that in fuel costs over a couple of years. The Police Chief also cited the vehicle's strong environmental credentials as being attractive to the residents of his community[xiv].

Sgt. Mike Tracey of the Aspen Police Department said their officers like the vehicle, and particularly appreciate its "silent mode" when they are cruising the streets of Aspen in electrical motor mode[xv]. Overall, the Department estimates it will save $7000 a year per vehicle in fuel costs. In addition over the life of the vehicle they will reduce CO2 emissions by 20 tons. Cutting that much CO2 is the equivalent of eliminating the carbon emission of approximately 2100 gallons of fuel[xvi].



The rear cage of the Aspen Police Toyota Highlander Hybrid Patrol vehicle.

Salt Lake City Police Department

The Salt Lake City Police Department has two Toyota Camry hybrids in its Police fleet. Introduced in 2008, the pilot project is still ongoing. Jeff Bartow, Fleet Customer

Service Advisor, says the results of the testing are still out[xvii]. The Camry is getting around 25-28 miles per gallon in fuel efficiency, which is roughly double that of their current fleet of Impalas. One Camry has been outfitted with a complete set of police equipment and prisoner cage, while the other is without the cage.

Bartow stated that some officers have an issue with space, as the interior dimensions of the Camry are smaller than the Impala. He believes a partial cage option for the Camry may be a better way to go. Bartow said the decision to use Camrys in the unmarked portion of the fleet makes sense, as vehicle driven in those conditions are getting 36-42 miles per gallon while providing the same service level[xviii].

University of Northern Illinois Police Department

The University of Northern Illinois has converted its entire fleet of 10 patrol vehicles to Toyota Prius patrol vehicles. The Department has a long history with the Prius, having introduced them in late 2005. Staff at the Police Department report these cars are ideal for a university or small-town type of deployment. The vehicles are highly fuel efficient, getting close to 35 miles per gallon. They say they are well-made vehicles that require minimal maintenance and repairs. While the external dimensions of the Toyota Prius are much smaller than traditional police vehicles, the internal dimensions are very similar. Thus, officers at the school report that the Prius is a comfortable patrol ride albeit is used in much smaller patrol conditions in many towns.

A Comparison – the Prius versus Tradition

Before anyone laughs in derision at the Prius as a possible patrol car, refer to this comparison chart for internal dimension and performance specifics against other "standard" police vehicles.

Criterion	Ford Police Interceptor (3.27 gear ratio)	Toyota Prius Hybrid	Chevrolet Impala	Dodge Charger V6
Front leg room	42.5	41.9	42.2	41.8
Rear leg room	39.6	38.6	38.4	40.2
Head room, front/rear	39.3/37.9	39.1/37.1	39.2/36.8	38.7/36.2
Peak torque (acceleration/hill climbing force)	275	335 (combined gas-electric)	200	250
Peak horsepower (acceleration/top speed)	235	110 (combined)	200	250
Braking 60-0 (Michigan	143 (civvie,	125	142 (civvie,	130

State Police)	155)		149)	
0-40 (Internet)	4.7	4.9	4.7	
0-60 (Internet)	8.8	9.8	9.2	8.9
0-60 (Michigan State Police)	8.9	n/a	8.8	8.9
Quarter mile (Internet)	16.7/86 mph	17.0/81 mph	17.0/84 mph	
EPA standard mileage	17/25	60/51	19/27	19/27
EPA combined mileage	18	55	23	24
Probable real world MPG in police use including idling time (Glenn figures)	10	35	12	
Actual top speed (Michigan State Police)	120	106 (Not MSP)	142	135

According to Lt. Todd Henert the biggest obstacle was one of image. Initially officers didn't like the size and look of the Prius; it wasn't a "cop car." Over the years he says that attitude has changed. He has several taller officers and they are able to use the Prius comfortably. He felt agencies should try the vehicles out and try them on an EVOC course. "They perform at or close enough to the traditional police vehicles most agencies use.[xix]" As noted in the above graph the Prius has interior dimensions similar to other traditional police vehicles with a MPG that is far superior. While the top speed of the vehicle is lower it still has sufficient pace for most city type applications[xx].

Solutions for the Future?

Certainly, moving to hybrids is not the last step an agency should consider to capitalize on fleet performance and savings. There are a couple of interesting innovations on the horizon. Carbon Motors Corporation has been working on the development of a police specific vehicle for some time. While not yet in full production, the Carbon E7 police vehicle strives to combine the needs of the modern police vehicle; including space, power, and full police functionality, with an innovative engine that advertizes at 28 to 30 miles per gallon[xxi]. The E7 uses an innovative diesel engine (which can also operate on biodiesel) that still delivers 300 hp and a top speed of 155 mph. Vehicle similar to the E7 may present future solutions for agencies looking enhance efficiency while retaining all the other "bells and whistles" to which the police have become accustomed. Information about the E7 can be found at the corporate website http://www.carbonmotors.com.

Tesla Motors is promising to come out with a high-performance all electric vehicle, the Tesla model S, that delivers 300 miles on a single charge of electricity and can quick charge in 45 minutes. Not yet in production, the Tesla is also not designed for police specs like the Carbon E7. If, however, vehicles such as the Tesla start to gain larger market share, their potential use for police work will be possible. These examples

are but a few of the ways police fleet managers should be looking out for their future options. Tesla information can be found at http://www.teslamotors.com.

Conclusion

Prudent police managers should plan for the very real likelihood of rising fuel prices. Five years ago police managers who undertook fleet change outs did so on their own. Today ample work has been done by enough brave agencies to pave the way for anyone to start this process. A plan transitioning patrol and non-patrol fleets to higher mileage more fuel-efficient vehicles is a viable and essential change that every agency needs to consider. Doing anything less would be irresponsible.

Endnotes.

[i] AAA Daily Fuelguage Report, http://www.fuelgaugereport.com/CAavg.asp (accessed July 25, 2009).

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[v] Mary Joyce Ivers-Ventura Fleet Manager, interview, September 23, 2008

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[x] Sgt. Tim Turner-Ventura Police Department, interview, September 23, 2008.

[xi] Jones, Ben, "Police look to trade 'gas hogs' for fuel-efficient fleet", USA Today, 9 October 2008, http://www.usatoday.com/money/autos/2008-10-08-big-police-cars_N.htm (accessed June 2, 2009).

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[xiii] Director Carl Chiaramonte, New York Police Department, Phone interview, July 8, 2009.

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[xv] Sgt. Mike Tracey-Aspen Police Department, Phone interview, July 8, 2009

[xvi] Environmental Protection Agency Website, Greenhouse Gas Equivalencies Calculator, http://www.epa.gov/cleanenergy/energy-resources/calculator.html (accessed July 28, 2009).

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[xviii] Ibid.

[xix] Lt. Todd Henert-Northern Illinois University Department of Public Safety, Phone interview, July 7, 2009.

[xx] Ibid.

[xxi] Carbon Motors Website-E7 Specifications, http://www.carbonmotors.com/machine/specifications (accessed July 20, 2009).